For my family
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REDUCING INFORMATION AVOIDANCE THROUGH SELF-AFFIRMATION

By

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May 2011

Chair: James A. Shepperd
Major: Psychology

Although recent medical advances allow people to identify and address medical conditions early, many people forego medical screening and thereby remain ignorant of their health status. One explanation for this avoidance is that people feel threatened by possible bad news. One way to reduce the threat associated with bad news is to affirm a person’s overall sense well-being (Steele, 1988). When affirmed, people focus on their overall integrity, rather than the part of their self that is threatened by the bad news, and thus, the area under threat is subjectively less important.

Study 1 tested whether self-affirmation reduces avoidance of health information. Participants wrote an essay about the characteristic they considered most important to their self-concept. In the Affirmation condition, participants described a time they personally demonstrated the characteristic. In the No-Affirmation condition participants described a time that a friend demonstrated the characteristic. Next, participants watched a video about a fictitious disease, TAA deficiency, described as affecting one in five college-age students and as having severe negative health-consequences. The video emphasized the importance of early detection. After completing a risk calculator for TAA deficiency, participants chose either to learn or to decline learning their risk for
TAA deficiency. As predicted, fewer participants avoided learning their risk in the affirmation condition (16%) than in the no-affirmation condition (55%).

Study 2 examined whether self-affirmation reduces information avoidance that occurs when learning the information obligates the person to undertake some undesired behavior. Participants who either were or were not affirmed learned that testing at high risk for a disease either would or would not obligate them to undergo a follow-up physical exam at a hospital. As predicted, although the obligation manipulation increased avoidance among non-affirmed participants, it had no effect on avoidance among affirmed participants. Study 3 extended the findings of Studies 1 and 2 by examining whether self-affirmation reduces information avoidance typically seen when a disease is portrayed as uncontrollable rather than controllable. As expected, non-affirmed participants were more likely to avoid learning their risk for TAA deficiency when it was described as uncontrollable. However, affirmed participants were unaffected by disease controllability. Taken together, these three studies show that self-affirmation diminishes information avoidance and is an effective remedy to situational factors that typically increase avoidance.
CHAPTER 1
INTRODUCTION

Each year, the American Cancer Society reports the incidence and prevalence of cancer in the United States. As part of their report, they offer guidelines for how often a person should be screened, and emphasize the life-saving importance of adhering to these guidelines. Despite these recommendations, millions of Americans choose not to undergo regular screenings for various types of cancer (American Cancer Society, 2009).

People fail to undergo cancer screening for a variety of reasons, including lack of resources, ignorance of screening opportunities, and perceptions of low risk (e.g., Donavan & Syngal, 1998). Important to the present study, people sometimes forego screening for cancer because they do not want to know their test results (e.g., Ajekigbe, 1991; Weitzman, Zapka, Estabrook, & Valentine-Goins, 2001). This active and intentional choice to avoid screening represents one illustration of how people avoid learning about themselves and the world around them. In other domains, people wish not to know about their parents’ sex lives (Shepperd & Howell, 2011), couples choose not to learn the sex of their unborn child (Shipp, Shipp, Bromley, Sheahan, Cohen, Lieberman, & Benacerraf, 2004), and, depending on the study, as many as 55% of people who undergo HIV testing fail to return to receive their results (Hightow, Miller, Leone, Wohl, Smurzynski, & Kaplan, 2003; Mullitor, Bell & Traux, 1999).

Why do people avoid learning information? Research on selective exposure posits that people prefer to receive information consistent with their attitudes and opinions (see Smith, Fabrigar & Norris, 2008, for a review). For example, people prefer to read internet-based messages that are consistent with their political views rather than
messages that are inconsistent with those views (Knobloch-Westerwick & Meng, 2009). By choosing to expose themselves only to attitude-consistent information, people can avoid the discomfort associated with a challenge to their way of thinking.

The selective exposure literature argues that people choose belief-consistent information over belief-inconsistent information to avoid dissonance associated with holding conflicting opinions simultaneously (Hart, Albarracin, Eagly, Brechan, Lindberg, & Merrill, 2009). However, because participants receive a choice between one of two messages, the selective exposure literature fails to account for situations in which people avoid information altogether (e.g., a person declining testing for a genetic disease). Thus, researchers coined the broader term Information Avoidance to describe “any behavior designed to prevent or delay the acquisition of available but potentially unwanted information” (Sweeny, Melnyk, Malone, & Shepperd, 2010, p. 4). Sweeny et al. (2010) propose that people avoid information to the extent that they believe that the information might cause them an undesired emotion, a change in a cherished belief, or an unwanted change in behavior.

Information avoidance can occur in a variety of contexts (Sweeny et al., 2010) but is of particular concern when it comes to health. For example, although regular screenings for colorectal cancer can significantly reduce mortality (Walsh & Terdiman, 2009), many people choose never to be screened for colorectal cancer (Donavan & Syngal, 1998; Weitzman, et al., 2001). Similarly, although regular screening for cervical cancer reduces the likelihood of mortality, a representative sample of over 1000 at-risk U.S. women revealed that close to 20% failed to undergo regular cervical cancer screenings.
Importantly, not all failures to seek information represent information avoidance. For example, a person may lack the financial resources to undergo screening or may simply not care. Thus, information avoidance refers only to the conscious decision to avoid information.

**Information Avoidance and Self-Affirmation**

People may avoid information for many reasons. Of importance to the present study, to the extent that people find a piece of information threatening, they should be more likely to avoid it. Information can be threatening in a variety of ways. For example, if people feel that information will cause a change in a cherished belief, obligate an undesired behavior, or produce some negative emotion, they will be more likely to avoid that information (Sweeny et al., 2010). Each of these motives for avoidance can be thought of as representing a type of threat. For instance, information that results in a change in a cherished belief can threaten people’s need for cognitive consistency, their worldview, and their self-views. Information that obligates an undesired behavior can threaten a people’s resources (e.g., time, money), as well as their perceptions of personal control. Finally, information that produces negative emotions might threaten people’s mental health/well-being, their mood, and their coping ability.

If people avoid information because it is threatening, then diminishing the threat associated with information should reduce avoidance of the information. One way to decrease the subjective threat of information is through self-affirmation (see Sherman & Cohen, 2006, for a review). Self-affirmation involves bolstering one's overall self-integrity in response to a threat to self-worth (Sherman & Cohen, 2006; Steele, 1988). By bolstering a person’s overall sense of self-worth, the threat becomes less menacing, making coping with that threat easier. For example, receiving a low grade on an exam
may pose a threat to a woman’s self-concept if she considers herself to be a good student. However, if she focuses on other areas that are central to her self-concept (e.g., her ability as a musician, how many friends she has), the low grade on the exam becomes subjectively less threatening (i.e., because it threatens only a small part of her overall self-worth rather than the entirety of a domain-specific self-worth).

Research confirms that self-affirmation reduces feelings of threat (Sherman & Cohen, 2002), increases acceptance of health information (Sherman, Nelson, & Steele, 2000), and can increase the likelihood of healthy behaviors (Epton & Harris, 2008). Self-affirmation allows people to reframe threatening information in ways that are less threatening. In one study, female coffee drinkers considered their ability to demonstrate a characteristic that was either important (affirmation) or unimportant (no-affirmation) to them. They then read a message linking caffeine consumption to breast cancer. Whereas affirmed participants reported being more accepting of the message and intended to change their coffee consumption, non-affirmed participants derogated the message and reported lower intentions to change their coffee consumption (Sherman et al., 2000). Similar effects occur for a variety of health messages (e.g., Harris & Napper, 2005). Sherman and his colleagues argue that affirmed participants are more accepting of threatening messages because they focus on a broader self-view rather than on the specific aspect of themselves that is under threat.

In addition to influencing intentions, self-affirmation can produce positive changes in health behavior. For example, participants in one study answered questions about their past kindness (affirmation condition) or about preferences on neutral topics (e.g., favorite vacation spots; no-affirmation condition). Participants then read a message that
encouraged eating fruits and vegetables. In the following week, affirmed participants ate an average of six more servings of fruits and vegetables than did non-affirmed participants (Epton & Harris, 2008).

In summary, research shows that affirming people can make them more accepting of threatening health messages (Sherman et al., 2000), can increase intentions to reduce risky behavior (Sherman et al., 2000), and can increase health behaviors (Epton & Harris, 2008). Importantly, research suggests that these effects occur primarily because of a reduction in the threat associated with a message. That is, because people perceive the information as less threatening, they respond less defensively and therefore are more likely to accept that information (Critcher Dunning, & Armor, 2010). If self-affirmation can reduce people’s perceptions of threat associated with information, then people who are self-affirmed should be less likely than non-affirmed participants to avoid information.

**Behavioral Obligation and Controllability**

People sometimes avoid learning information when they believe it might induce them to take some undesired behavior. For example, in a survey of expectant parents who had previously given birth to a child with a genetic defect, several declined genetic testing of their fetus because they feared that the results would prompt them to abort the pregnancy (Kelly, 2009). Similarly, a study of Belgian immigrants revealed that many who were waiting for citizenship chose to avoid HIV testing despite a history of risky sexual behavior. Their reason: they were obligated to report all illness to the government and believed that testing HIV positive would jeopardize their citizenship application (Mairakunda et al., 2009). Other research shows that South African sex-workers avoid HIV screening because positive test results would endanger their
livelihood (Vargas, 2011), and that the primary reason Nigerian women gave for delaying a visit to their physician about a suspicious lump in their breast was a fear that they would have to have a mastectomy (Ajekigbe, 1991).

In addition to this self-report evidence, studies from our lab reveal that an obligation to take action can increase information avoidance (Howell & Shepperd, 2011). In one study, participants learned that being at high risk for a disease would require them to undergo an unpleasant and invasive physical examination (High Obligation condition) or a non-invasive examination (Low Obligation condition). As expected, more participants in the High Obligation condition than the Low Obligation condition opted to avoided screening for the disease.

In the present project, I evaluated whether affirmation reduces information avoidance even when the information obligates undesired behavior. Because affirmation reduces the threat associated with information (Sherman & Cohen, 2006), the threat posed by obligation should seem less menacing to affirmed individuals and, as a result, they should be less likely to avoid information.

A second situational factor that can increase avoidance is the controllability of an outcome (Melnyk & Shepperd, 2011). Specifically, people are more likely to avoid information when learning that information will not allow them to assert control over their situation. For instance, participants reported that they would more inclined to avoid genetic testing for an untreatable disease than a treatable disease (Yaniv, Benador, & Sagi, 2004). Additionally, women were more likely to avoid learning their breast cancer risk after reading about the uncontrollable predictors of breast cancer than after reading about controllable predictors of breast cancer (Melnyk & Shepperd, 2011). In another
study, participants were more likely to avoid information about their risk for a genetic
disease, alopecia, when it was described as being treatable rather than untreatable
(Dawson, Savitsky, & Dunning, 2006). Taken together, these studies suggest that
people should be more likely to avoid learning their risk for an uncontrollable disease
compared to a controllable disease.

In the present project, I evaluated whether affirmation could remedy avoidance of
information pertinent to uncontrollable events. If affirmation reduces the threat
associated with information (Sherman & Cohen, 2006), then fewer affirmed participants
than non-affirmed participants should avoid risk feedback. In a similar vein, non-affirmed
participants’ decision to avoid should be affected by obligation, such that greater
obligation leads to greater avoidance. By contrast, affirmed participants should avoid
less than non-affirmed participants regardless of obligation. Finally, although non-
affirmed participants should avoid risk feedback for uncontrollable diseases more than
controllable diseases, affirmed participants should avoid less than non-affirmed
participants, regardless of controllability.

**Overview and Hypotheses**

Hypothesis 1: In general, I expected that self-affirmation, which reduces people’s
perceptions of information as threatening, would reduce information avoidance.
Specifically, I anticipated that more affirmed participants than non-affirmed would avoid
information about their risk for a disease.

Hypothesis 2: I predicted that affirming participants would eliminate avoidance
typically seen when undesired behavior is obligated (Hypothesis 2)

Hypothesis 3: Finally, I anticipate that affirming participants will diminish the
avoidance typically seen when a disease is uncontrollable (Hypothesis 3).
I tested these hypotheses in three studies. In Study 1, I randomly assigned participants to either an affirmation or a no-affirmation condition, and assessed differences in avoidance of risk-feedback. In Study 2, I randomly assigned participants to one of four conditions in a 2 (Affirmation: Affirmed or Not Affirmed) x 2 (Obligation: High or Low) between-subjects design. In Study 3, I randomly assigned participants to one of four conditions in a 2 (Affirmation: Affirmed or Not-Affirmed) x 2 (Disease Controllability: Controllable or Uncontrollable) between-subjects design.

In addition to examining the effects of affirmation on avoidance, I measured other factors associated with avoidance. By doing so, I examined potential suppressor effects and explained additional variance in information avoidance. Previous information avoidance studies reveal three predictors to be particularly important in accounting for avoidance. First, our lab has developed a measure that assesses individual differences in the tendency to avoid health information (i.e., the Dispositional Health Avoidance Scale). We find that people who score higher on our measure are more likely to avoid specific information about their health. For example, in a recent study, people who scored higher on our measure were more likely to avoid learning their feedback for a fictitious disease, TAA Deficiency (Howell & Shepperd, 2011). I anticipate that controlling for a person’s baseline tendency to avoid health information will clarify the effects of affirmation on avoidance.

A second factor that predicts information avoidance is anticipated negative affect associated with a diagnosis (Sweeny et al., 2010). In a recent study, participants were more likely to avoid their risk for diabetes to the extent that they expected that being diagnosed with the disease would make them feel bad (Howell & Shepperd, 2009).
Third, greater anticipated regret about avoiding the information predicts less information avoidance (Melnyk & Shepperd, 2011). For example, participants in one study were significantly less likely to avoid their risk for cardiovascular disease if they believed they would regret that decision (Howell & Shepperd, 2010). Importantly because anticipated negative affect and anticipated regret should be unaffected by affirmation, they should both predict beyond affirmation alone.

To maximize the amount of variance explained by the model, I entered each of these factors (Appendix D) into a logistic regression. By doing so, I sought to better understand the unique effect of self-affirmation on information avoidance and to explore whether dispositional health avoidance, anticipated negative affect, and anticipated regret would predict avoidance beyond affirmation.
Study 1 examined whether affirmation reduces avoidance of screening feedback.

**Method**

**Participants**

Participants were 40 undergraduates (26 women) who participated in partial fulfillment of an experimental participation requirement.

**Design and Procedure**

When participants arrived for the experiment, an experimenter dressed in medical scrubs escorted them to individual work stations and told them that they would complete two unrelated surveys: a paper-and-pencil survey for the psychology department assessing values, and an online survey from the university hospital assessing risk for a disease called TAA Deficiency.

The psychology survey (Appendix A) introduced the affirmation manipulation (Sherman, et al., 2000). The instructions guided participants to list traits that were central to their self-concept, to identify the trait that they considered most important, and to write a short essay about a time that they successfully demonstrated the trait (Affirmation condition) or about a time that a friend successfully demonstrated the trait (No Affirmation condition). In prior self-affirmation studies, the No Affirmation condition typically involves writing about innocuous events such as preferences (e.g., Epton & Harris, 2008). By having participants write about a friend successfully demonstrating the trait, I eliminated the possibility that any effect that emerged was due to writing about a positive or successful experience rather than due to affirmation.
Next, participants completed the hospital survey, which involved completing a demographic questionnaire and viewing a video about a (fictitious) disease called Tiomene Acetlyace (TAA) deficiency, which ostensibly produces a problem with the body’s ability to process nutrients and can lead to severe medical complications (e.g., exhaustion, immunodeficiency, neurological deterioration, and early death). This video explained that 20% of college students have TAA deficiency and that most are unaware that they have it.

After watching the video, participants completed a hypothetical risk-calculator (Appendix B) and viewed a screen indicating that, based on their responses to the risk-calculator, the computer could calculate their lifetime risk for TAA deficiency (Appendix C). Participants then received three choices: (1) they could receive their lifetime risk feedback immediately, (2) they could receive an email link to the risk calculator allowing them to learn their lifetime risk at another time, or (3) they could elect not to receive their risk feedback. Participants’ choice represented the primary dependent measure.

After selecting a choice, participants completed several manipulation check and process items (Appendix D). When all participants had completed the online survey, they were debriefed and thanked by the experimenter.

**Measures**

**Primary dependent measure: avoidance.**

I measured avoidance on the three-option scale mentioned above. Because the definition of information avoidance includes people who “avoid” or “delay” receiving information, people who chose to receive feedback at a later date were classified as “avoiding.” I chose this dichotomization not only to match the definition of avoidance, but also to mirror real-life decision-making processes in which the decision to undergo
screening is either “yes” or “no”. Importantly, when considering all three categories (seeking, delaying, and avoiding) separately as a dependent measure, the pattern of results was similar to the one presented here. Moreover, on measures in which the responses of seekers and avoiders differed significantly, the responses of delayers were almost always in line with the responses of avoiders. In Study 1, 5% of people classified as avoiders chose the “delay” option, in Study 2, 11% chose the “delay” option, and in Study 3, 8% chose the “delay” option.

**Process and individual difference measures.**

Unless otherwise mentioned, all variables used a 7-point likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). For all scale reliabilities see Table 2-1.

**Dispositional health avoidance.** I measured individual differences in information avoidance using a 10-item measure (Howell & Shepperd, 2011). The measure allows researchers to tailor the instrument to specific information people might choose to avoid. For the present study, I tailored the instrument to assess avoidance of health information. Example items include, “There is some information that I would rather not learn about my health,” and “When it comes to my health, sometimes ignorance is bliss.” We are in the process of collecting reliability and validity information on the measure. Importantly, the scale has shown satisfactory internal consistency across eight different data sets (Chronbach’s alphas > .75).

**Anticipated negative affect.** I assessed anticipated negative affect associated with learning one has TAA deficiency with four items: (1) “I would feel distressed if I learned that I was at high risk for TAA Deficiency”, (2) “I would feel happy if I learned that my risk for TAA Deficiency was low”, (3) “It will be difficult for me to deal with the
news should I learn that I am at risk for TAA Deficiency”, and (4) “Learning that I am at high risk for TAA deficiency would make me feel bad.”

**Anticipated regret.** I assessed anticipated regret with the item: “Imagine that you chose NOT to learn your TAA Deficiency risk. How much do you anticipate regretting that decision later? (This is a hypothetical question. To answer this question, imagine choosing not to learn your personal risk in the previous part of the questionnaire, irrespective of what option you actually chose.)” Participants responded using a 7-point scale ranging from 1 (Very Little) to 7 (Very Much).

**Positive and negative affect.** One possible alternative explanation for the effects of affirmation is that considering one’s successes increases positive affect and decreases negative affect in a way that considering others’ successes does not. To investigate this alternative hypothesis, I assessed positive and negative affect using the Short form of the Positive and Negative Affect scale (S-PANAS; Mackinnon, Jorm, Christensen, Korten, Jacomb, & Rogers, 1999) both before and after the self-affirmation manipulation (Appendix E). The S-PANAS asks participants to rate their current feelings using five positive adjectives (e.g., excited, inspired) and five negative adjectives (e.g., upset, distressed). The S-PANAS is both reliable and valid across a variety of samples, producing a consistent two-factor structure, and yielding an average Chronbach’s alpha of .75 for positive affect and .87 for negative affect (Mackinnon et al., 1999).

**Results and Discussion**

**Analyses**

I conducted the analysis in three parts. First, I evaluated the effects of the manipulation. Second, I evaluated possible suppressors and additional explanatory
variables. Third, I evaluated the feasibility of mood differences as an alternative explanation.

**Information Avoidance and Affirmation**

Hypothesis 1 stated that affirmed participants would avoid information less than would non-affirmed participants. As predicted, logistic regression revealed that fewer participants declined to learn their lifetime risk of TAA deficiency in the Affirmation condition (16%) than in No Affirmation condition (55%), \( \chi^2 = 7.00, p < .01, R^2 = .17 \).

**Additional Variance**

To detect possible suppressor effects, and to account for additional variance in the data, I entered the remaining variables into a prediction model in two steps. In Step 1, I entered dispositional health avoidance into the model to evaluate suppressor effects. In Step 2, I entered anticipated negative affect and anticipated regret to account for additional variance.

**Step 1: Dispositional health avoidance.**

Dispositional health avoidance did not significantly predict information avoidance beyond the affirmation manipulation, \( \chi^2 = 3.00, p = .08, R^2 \) change = .07. Moreover, even when accounting for dispositional health avoidance, the affirmation manipulation remained a significant predictor of information avoidance, \( \chi^2 = 6.00, p < .01 \).

**Step 2: Anticipated negative affect and anticipated regret.**

To account for additional variance in people’s decision to seek vs. avoid information, I added anticipated negative affect and anticipated regret to the model as predictors. Adding anticipated negative affect and anticipated regret to the model significantly improved model fit, \( \chi^2 (2) = 16.17, p < .001, R^2 \) change = .27. However, the
added variance explained came primarily from anticipated regret, \( \chi^2 = 14.85, p < .01, R^2 = .24 \). The analysis indicated that the more participants believed they would regret their decision, the less likely they were to avoid receiving feedback about their risk of having TAA deficiency. Anticipated negative affect was not a significant predictor of avoidance, \( \chi^2 = 1.31, \text{ns}, R^2 = .03 \). As before, the affirmation manipulation continued to significantly predict information avoidance, \( \chi^2 = 5.42, p < .03 \).

**Overall Model**

Overall, the 4-predictor model accounted for 51% of the variance in people’s decision to seek vs. avoid their risk estimate for TAA deficiency, \( \chi^2 (4) = 26.16, p < .001, R^2 = .51 \). Most of this variance was accounted for by the affirmation manipulation and anticipated regret.

**Positive and Negative Affect**

To ensure that the changes in avoidance were not due to a change in affect, I correlated scores on the S-PANAS, avoidance, and affirmation condition. Positive and negative affect were uncorrelated with both the self-affirmation manipulation and the decision to avoid, r's (39) < .23, ns. Thus, Study 1 revealed no support for the possibility that differences in avoidance were resulted from the manipulation producing differences in mood.

**Summary**

As expected, affirming participants significantly reduced avoidance of TAA risk feedback. In addition, greater anticipated regret predicted less avoidance. Contrary to expectations, dispositional health avoidance did not serve as a suppressor.
### Table 2-1. Scale Reliabilities

<table>
<thead>
<tr>
<th>Scale</th>
<th>Study 1: Affirmation</th>
<th>Study 2: Behavioral Obligation x Affirmation</th>
<th>Study 3: Controllability x Affirmation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Time 1</td>
<td>Time 2</td>
<td>Time 1</td>
</tr>
<tr>
<td>Positive Affect (PANAS)</td>
<td>$\alpha = .83$</td>
<td>$\alpha = .87$</td>
<td>$\alpha = .81$</td>
</tr>
<tr>
<td>Negative Affect (PANAS)</td>
<td>$\alpha = .89$</td>
<td>$\alpha = .90$</td>
<td>$\alpha = .83$</td>
</tr>
<tr>
<td>Dispositional Health Avoidance</td>
<td>$\alpha = .81$</td>
<td>$\alpha = .83$</td>
<td>$\alpha = .84$</td>
</tr>
<tr>
<td>Anticipated Negative Affect</td>
<td>$\alpha = .79$</td>
<td>$\alpha = .75$</td>
<td>$\alpha = .75$</td>
</tr>
</tbody>
</table>
Figure 2-1. Percentage of participants avoiding their risk feedback in the affirmation and no-affirmation conditions in Study 1.
CHAPTER 3
STUDY 2

Study 2 examined the effect of affirmation in the presence of a known motivator of avoidance: behavioral obligation (Howell & Shepperd, 2011).

Method

Participants

Participants were 113 undergraduates (81 women) who participated in partial fulfillment of an experimental participation requirement.

Design and Procedure

Procedures were identical to Study 1, with the following addition: Before deciding whether to learn their lifetime risk TAA deficiency, participants read one of two statements. In the High Obligation condition, participants read that, if the test results indicated that they were at high risk for TAA deficiency, they would be legally obligated to go to the university medical hospital for a definitive physical examination. In the Low Obligation condition, participants read that if the test results indicated that they were at high risk for TAA deficiency, they should visit their regular doctor for a physical examination.

Results and Discussion

Analyses

As in Study 1, I conducted the analysis in three parts. First, I evaluated the effects of the manipulations. Second, I evaluated possible suppressors and additional explanatory variables. Third, I evaluated the feasibility of mood differences as an alternative explanation.
**Information Avoidance and Affirmation**

Using logistic regression, I tested Hypothesis 2, that affirmation could reduce the effects of obligation on information avoidance. The results revealed a significant main effect of affirmation on information avoidance, $\chi^2 = 16.44, p < .001, R^2 = .15$, such that affirmed participants avoided their results significantly less (20%) than did non-affirmed participants (53%). Additionally, a significant main effect of behavioral obligation emerged, $\chi^2 = 4.23, p < .05, R^2 = .04$. Participants avoided TAA feedback more in the High Obligation condition (47%) than in the Low Obligation condition (29%). These main effects were qualified by an interaction (Figure 3-1), $\chi^2 (3) = 22.77, p < .001, R^2 = .18$. Simple effects tests revealed that, non-affirmed participants avoided information more in the High Obligation condition (72%) than in the Low Obligation condition (40%), $\chi^2 = 4.77, p < .03, R^2 = .11$. However, affirmed participants avoided learning their feedback equally in both the High Obligation (21%) and Low Obligation (19%) conditions, $\chi^2 = .04, \text{ns}, R^2 < .01$, indicating that the affirmation manipulation eliminated the effects of behavioral obligation.

**Additional Variance**

To detect possible suppressor effects, and to account for additional variance in the data, I entered the remaining variables into a prediction model in two steps. In Step 1, I entered dispositional health avoidance into the model to evaluate suppressor effects. In Step 2, I entered anticipated negative affect and anticipated regret to account for additional variance.
Step 1: Dispositional health avoidance.

Dispositional health avoidance predicted information avoidance beyond the main effect and interaction terms, $\chi^2 = 12.28$, $p < .001$, $R^2$ change = .09. Specifically, the higher people rated themselves in general avoidance of health information, the more likely they were to avoid information. Moreover, even when accounting for dispositional health avoidance, the affirmation and obligation effects remained unchanged, indicating that dispositional health avoidance was neither a mediator nor a suppressor, $\chi^2 (3) = 20.61$, $p < .001$.

Step 2: Anticipated negative affect and anticipated regret.

Adding measurements of anticipated negative affect and anticipated regret significantly improved model fit, $\chi^2 (2) = 8.84$, $p = .01$, $R^2$ change = .06. This effect was primarily driven by anticipated regret, $\chi^2 = 6.63$, $p = .01$, $R^2 = .05$. The analysis indicated that the more participants believed they would regret their decision, the less likely they were to avoid receiving feedback about their risk of having TAA deficiency. As in Study 1, anticipated negative affect was not a significant predictor of avoidance, $\chi^2 = .23$, ns. Further, the effects of affirmation and behavioral obligation continued to significantly predict people’s tendency to avoid information, $\chi^2 (3)= 18.56$, $p > .01$, as did dispositional health avoidance, $\chi^2 = 10.26$, $p > .01$.

Overall Model

Overall, the 6-predictor model accounted for 32% of the variance in people’s decision to seek or avoid their risk estimate for TAA deficiency, $\chi^2 (6)= 43.89$, $p < .001$, $R^2 = .32$. 
Positive and Negative Affect

To examine whether changes in avoidance were due to a change in affect, I correlated scores on the S-PANAS, avoidance, obligation condition, and affirmation condition. Positive and negative affect were uncorrelated with the manipulations and the decision to avoid feedback, rs (113) < .15, ns. Thus, Study 2 provided no support for the possibility that differences in avoidance were resulted from the manipulation producing differences in mood.

Summary

As expected, non-affirmed participants avoided learning their risk for TAA deficiency when they believed it would obligate them to take an undesired behavior than when they believed it would not obligated them to take an undesired behavior. However, affirmed participants were unaffected by obligation. Two additional predictors emerged in the model: dispositional health avoidance and anticipated regret. People were more likely to avoid learning their risk for TAA deficiency to the extent that they rated themselves as likely to avoid health information, and less likely to avoid information to the extent that they anticipated regretting avoiding the information.
Figure 3-1. Percentage of participants avoiding their risk feedback as a function of affirmation and behavioral obligation.
Study 3 examined whether affirmation could remedy the effects of controllability.

Method

Participants

One hundred and four undergraduates (68 women) participated in partial fulfillment of an experimental participation requirement.

Design and Procedure

Procedures were identical to Study 1, with the following addition: In the Controllable condition, participants watched a video that indicated that TAA deficiency could be treated through a simple pill regimen. In the Uncontrollable condition, the video indicated that there was currently no effective treatment for TAA deficiency.

Results and Discussion

Analyses

As in Study 1, I conducted the analysis in three parts. First, I evaluated the effects of the manipulations. Second, I evaluated possible suppressors and additional explanatory variables. Third, I evaluated the feasibility of mood differences as an alternative explanation.

Information Avoidance

Hypothesis 3 stated that affirmation could remedy avoidance typically seen for uncontrollable diseases. Specifically, although non-affirmed participants were expected to avoid more in the uncontrollable condition than in the controllable condition, affirmed participants were expected to avoid equally regardless of condition. As hypothesized, analysis revealed a significant main effect of affirmation on people’s tendency to avoid
their risk feedback. Affirmed participants avoided information significantly less (15%) than non-affirmed participants (54%), $\chi^2 = 14.26$, $p < .001$, $R^2 = .17$. As seen in Figure 4-1, the main effect of Affirmation was qualified by an Affirmation by Controllability interaction, $\chi(3)^2 = 16.24$, $p < .001$, $R^2 = .22$. Simple effects tests revealed that non-affirmed participants avoided their risk more for an uncontrollable disease (68%) than for a controllable disease (35%), $\chi^2 = 4.17$, $p < .04$, $R^2 = .11$. However, affirmed participants avoided learning their feedback equally for both controllable (11%) and uncontrollable (17%) diseases, $\chi^2 = .55$, ns, $R^2 = .01$, indicating that affirmation eliminated the effects of controllability.

**Additional Variance**

To detect possible suppressor effects, and to account for additional variance in the data, I entered the remaining variables into a prediction model in two steps. In Step 1, I entered dispositional health avoidance into the model to evaluate suppressor effects. In Step 2, I entered anticipated negative affect and anticipated regret to account for additional variance.

**Step 1: Dispositional health avoidance.**

Dispositional health avoidance did not significantly predict avoid information above and beyond the main effect and the interaction effect, $\chi^2 = 2.93$, $p = .09$, $R^2$ change = .03. Moreover, even when accounting for dispositional health avoidance, the affirmation and obligation effects remained unchanged, $\chi^2(3) = 14.90$, $p < .002$.

**Step 2: Anticipated negative affect and anticipated regret.**

Adding anticipated negative affect and anticipated regret significantly improved model fit, $\chi^2(2) = 13.57$, $p < .001$, $R^2$ change = .11. The analysis indicated that people
avoided learning their risk more as their anticipation of negative affect increased, $\chi^2 = 7.92, p < .01, R^2 = .07$. Additionally, the more participants believed they would regret their decision, the less likely they were to avoid receiving feedback about their risk of having TAA deficiency, $\chi^2 = 5.65, p < .02, R^2 = .05$. Importantly, the effects of affirmation and controllability continued to significantly predict information avoidance even after entering anticipate negative affect and anticipated regret, $\chi^2 (3) = 15.22, p < .01$.

**Overall Model**

Overall, the 6-predictor model accounted for 35% of the variance in people's decision to seek or avoid their risk estimate for TAA deficiency, $\chi^2 (6) = 35.94, p < .001, R^2 = .35$.

**Positive and Negative Affect**

To ensure that the changes in avoidance were not due to a change in affect, I correlated scores on the S-PANAS, avoidance, controllability condition, and affirmation condition. Consistent with Studies 1 and 2, positive and negative affect were not associated with either independent variable or the decision to avoid, r's (85) < .19, ns, indicating no support for the notion that differences in avoidance were resulted from the manipulation producing differences in mood.

**Summary**

As expected, non-affirmed participants were more likely to avoid learning their risk for TAA deficiency when the disease was described as uncontrollable than when it was described as controllable. By contrast, few affirmed participants avoided learning their risk for TAA deficiency regardless of whether the disease was described as controllable or uncontrollable. Anticipated negative affect and anticipated regret also
emerged as predictors in Study 3. People were more likely to avoid learning their risk for TAA deficiency to the extent that they anticipated negative affect as the result of being diagnosed, and they were less likely to avoid learning their risk for TAA deficiency to the extent that they anticipated regret about avoiding.
Figure 4-1. Percentage of participants avoiding their risk feedback as a function of affirmation and disease controllability.
CHAPTER 5
GENERAL DISCUSSION

Summary

Across three studies, self-affirmation significantly reduced people’s tendency to avoid learning their risk for TAA deficiency. Affirmation also remedied the effect of situational factors known to prompt greater avoidance. Specifically, although non-affirmed participants avoided information more in the High Obligation condition than in the Low Obligation condition, affirmed participants displayed relatively little avoidance regardless of condition. Additionally, non-affirmed participants avoided more when a disease was described as uncontrollable (vs. controllable). By contrast, affirmed participants displayed relatively little avoidance regardless of disease controllability.

In addition to affirmation, three other variables predicted the decision to seek or avoid information. The most robust of these predictors was anticipated regret, which across all three studies predicted beyond affirmation. Additionally, anticipated negative affect emerged as a significant predictor of information avoidance in Study 2, and dispositional health avoidance emerged as significant predictors of information avoidance in Study 3. However, because the effect of these variables was inconsistent across studies, they should be interpreted cautiously.

The Importance of Situational Factors

Although self-affirmation dramatically reduced information avoidance in the present study, I acknowledge that it may not always do so. Indeed, affirmation may only reduce information avoidance in certain circumstances. First, for self-affirmation to affect avoidance, the information must be self-relevant. If information is seen as irrelevant, then motivated avoidance will likely be low. Further, when information is not
self-relevant, affirmation will not affect people’s openness to that information (Sherman et al., 2000). Therefore, affirming people for whom information is not relevant will not change their avoidance. Second, because affirmation works only if a person is affirmed prior to being threatened (Critcher et al., 2010), it is essential that any affirmation precede the opportunity to attain information. Finally, research suggests that the effects of affirmation are weaker when a person is aware that he or she is being affirmed (Sherman, Cohen, Nelson, Nussbaum, Bunyan, & Garcia, 2009). Thus, it is important that people be unaware of the goal of an affirmation manipulation.

**Limitations and Future Directions**

The present study provides evidence that affirmation can reduce information avoidance. However, several aspects of the present study limit its scope. One potential limitation is that the study used a fictitious disease. I chose to use a fictitious disease for three reasons. First, it allowed me to manipulate elements of the disease to fit the sample and to create the independent variables. That is, by indicating that TAA deficiency affects college students, I was able to mirror real-life disease (i.e., diabetes) but still make it relevant to a college sample. Second, by using a fictitious disease, I could manipulate controllability in Study 3 without raising concerns from health-literate participants. Third, I was able to examine participants’ reactions to a disease about which they had no preexisting bias. Because TAA Deficiency is fictitious, no one had preconceptions in the way people have preconceptions about existing diseases such as diabetes and HIV.

Although I believe using a fictitious disease is defensible, its use undoubtedly limits the generalizability of these findings. There are certain threatening aspects of real diseases (e.g., social stigmas, family history of the disease, personal experiences with
people diagnosed) that cannot be fabricated in the lab. Thus, real diseases may seem
more threatening than TAA deficiency, and therefore be more likely to elicit avoidance
responses. As such, a simple affirmation manipulation might be insufficient in reducing
avoidance. Needed are studies that address the effects of affirmation on avoidance of
feedback about real medical conditions and diseases.

A second limitation is that I assessed only college students. Although using a
college sample is common in exploratory research like mine, college students are
generally healthy and thus may respond differently than a less healthy sample.
Specifically, to the extent that a disease is threatening, people should be more likely to
avoid it. However, college students are generally unlikely to be diagnosed with a life-
threatening disease. Because their risk for most diseases is statistically lower than the
risk of older adults, college students may be comparatively less threatened by risk
feedback. By contrast, in an older, less healthy, population, the statistical likelihood of
contracting many diseases is much higher. Thus, the same disease may thus be more
threatening to an older adult than to a college student. To address this limitation, it is
imperative that future research investigates the affirmation-avoidance relationship in
older populations.

The Process of Affirmation

Although I showed that affirmation can decrease information avoidance, the
process underlying self-affirmation remains unclear. One possibility is that affirmation
decreases avoidance by reducing the amount of resources required to deal with bad
news. As mentioned at the onset of this paper, self-affirmation diminishes the relative
threat associated with receiving bad news by refocusing attention to overall integrity.
Thus, the threat of bad news about one’s health carries comparatively less weight if
people are focused on their overall integrity than if they are focused only on their health (Steele, 1988). Following this logic, it is possible that affirmation reduced the amount of resources required to deal with bad news.

Reducing the demand for resources that are required to deal with bad news should decrease avoidance of that news. That is, because receiving an unexpected diagnosis can demand coping resources to deal with the news (Carver, Scheier, & Weintraub, 1989; Wolf & Mori, 2009), people who believe they lack the ability to cope might choose to avoid learning that information altogether (e.g., Walsh & Terdiman, 2009, Weitzman et al., 2001). If people avoid information more when they believe they lack the resources to deal with this information (e.g., Odedina et al., 2004), then diminishing the perceived impact of a negative outcome should decrease avoidance. Thus, it is possible that affirming participants reduces the resources required to deal with an outcome, thereby reducing avoidance.

The notion that affirmation reduces coping resources required to manage threats represents only one of many potential explanations for how affirmation may reduce avoidance. Indeed, researchers have proposed a variety of processes that may underlie self-affirmation, including reducing defensiveness, bolstering a person’s self-worth, and augmenting self-esteem (Sherman & Cohen, 2006). This project is one of many self-affirmation projects that lacks a clear identification of process. Indeed, research on self-affirmation has not yielded a consistent process variable that specifies how affirmation works (Critcher et al., 2010, Sherman & Cohen, 2006). As such, future research should focus on identifying the process behind the affirmation-avoidance relationship.
Despite the absence of such process data, the present study offers strong evidence that affirmation can reduce information avoidance and, thus provides a promising avenue for future research on avoidance.

**Implications**

These studies have several promising health implications. Perhaps the most direct and compelling implication is that affirmation can be used to reduce avoidance of risk feedback. The present results suggest that the simple process of having people consider their own successes on a self-relevant global characteristic can reduce their avoidance of health information. As such, it might be worthwhile to affirm patients who are at particularly high risk for disease, but are afraid to undergo screening or to learn their screening results. As noted earlier, as many as 55% of people who undergo HIV testing fail to return to receive their results (Hightow et al., 2003). The present data suggest that affirming people when they undergo HIV testing may increase the return rate, and thereby allow for an earlier diagnosis and treatment.

Another implication of this project is that affirmation may help reduce avoidance of unpleasant, but important, information following a diagnosis. In the course of treatment it is important for patients to learn information about both the disease and the treatment process. Unfortunately, the information can be frightening, especially when available coping resources are devoted to dealing with the diagnosis. People sometimes manage this threat by shutting down and avoiding information altogether (Carver, et al., 1989). By affirming participants already diagnosed with disease, it is possible to reduce the threat associated with learning further unpleasant, but necessary, information about the disease and treatment.
Conclusions

My findings offer a promising first step in understanding how to reduce avoidance health information. Although avoidance might serve to save people from the negative emotions associated with disease diagnosis (Sweeny et al., 2010), in many health situations avoidance can cause more harm than good. For example, although a diagnosis of HIV can lead to social stigma (Neuberg & Cottrell, 2006) and negative affect, untreated HIV can develop into AIDS and eventually lead to death (Centers for Disease Control, 2011). In such situations, it is often wise to forego the temporary affective benefit provided by avoidance in exchange for the long-term benefits of learning the information. The present study demonstrates that self-affirmation is one way to reduce such avoidance.
Please list six characteristics that you believe are admirable in a person.

1. ____________________________________________________________
2. ____________________________________________________________
3. ____________________________________________________________
4. ____________________________________________________________
5. ____________________________________________________________
6. ____________________________________________________________

Now, please select the characteristic that is most important to you and circle it.

Short Writing Exercise

Please write a paragraph below about several times in the past week that you (a friend) demonstrated (failed to demonstrate) the characteristic that you selected.

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
## APPENDIX B
### TAA DEFICIENCY RISK CALCULATOR

<table>
<thead>
<tr>
<th>Question</th>
<th>YES</th>
<th>NO</th>
<th>NOT SURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your age?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What is your gender?</td>
<td>Female</td>
<td>Male</td>
<td></td>
</tr>
<tr>
<td>What is your height in inches? (12 inches = 1 foot)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What is your weight in pounds?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you ever been told that you have high blood pressure (hypertension) or have you ever been given blood pressure medication?</td>
<td>YES</td>
<td>NO</td>
<td>NOT SURE</td>
</tr>
<tr>
<td>Have you ever had a heart attack or been told that you have heart disease?</td>
<td>YES</td>
<td>NO</td>
<td>NOT SURE</td>
</tr>
<tr>
<td>Have you ever been told that you have diabetes or a problem with high blood sugar?</td>
<td>YES</td>
<td>NO</td>
<td>NOT SURE</td>
</tr>
<tr>
<td>Have you ever been told that you have high cholesterol?</td>
<td>YES</td>
<td>NO</td>
<td>NOT SURE</td>
</tr>
<tr>
<td>Do you exercise weekly?</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>If yes, how many hours a week do you exercise?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Do you smoke or chew tobacco?</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>If yes, how many times a day do you smoke or chew tobacco?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Are you exposed to smoke from other people's cigarettes or cigars?</td>
<td>Regularly</td>
<td>Occasionally</td>
<td>Rarely</td>
</tr>
<tr>
<td>Do you have any relatives in your immediate family who have suffered from TAA Deficiency?</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>If yes, how many immediate relatives have suffered from TAA Deficiency?</td>
<td>One</td>
<td>Two</td>
<td>More Than Two</td>
</tr>
<tr>
<td>Do you usually eat fish two or more times per week?</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>Do you eat 5 or more servings of fruit and vegetables per day? A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>serving is one medium apple, banana or orange, 1 cup of raw leafy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vegetable (like spinach or lettuce), ½ cup of cooked beans or peas, ½</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cup of chopped, cooked or canned fruit/vegetable or ¾ cup of fruit/</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vegetable juice.</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>Do you eat 3 or more servings of whole grains per day (wheat bread,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>whole grain pasta, brown rice, oatmeal, whole grain breakfast</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cereal, bran or popcorn)? A serving is one slice of bread, 1 ounce of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>breakfast cereal or ½ cup of cooked cereal, pasta or rice.</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>Do you usually eat 3 servings of nuts per week? A serving is 1 ounce,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>which is about one airline packet of nuts or one tablespoon of peanut</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>butter.</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>Do you usually eat butter, lard, red meat, cheese or whole milk 2 or</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>more times per day?</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>Do you eat stick margarine, vegetable shortening, store-bought</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>baked goods (cookies, cakes, pies) or deep-fried fast foods on most</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>days?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you eat oil-based salad dressing or use liquid vegetable oil for</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cooking on most days?</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>Do you take a multivitamin or a B complex supplement on most days?</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>How many servings of alcohol do you have on a typical day? One serving is a can of beer, a glass of wine or a shot of hard liquor.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>What is your total cholesterol level?</td>
<td>Low-Less than 200mg/dL</td>
<td>Borderline High-200-239mg/dL</td>
<td>High-240 mg/dL</td>
</tr>
<tr>
<td>What is your Blood Pressure?</td>
<td>Normal-139/89 or below</td>
<td>Mild Hypertension-140/90-160/100</td>
<td>Moderate Hypertension-161/101-120/200</td>
</tr>
<tr>
<td>What is your ethnicity?</td>
<td>Non-Hispanic or Latino</td>
<td>Hispanic or Latino</td>
<td></td>
</tr>
<tr>
<td>Select one or more races to indicate what you consider yourself to be:</td>
<td>American Indian/Alaskan Native</td>
<td>Black/African-American</td>
<td>Asian</td>
</tr>
</tbody>
</table>
APPENDIX C
TESTING DECISION

We can provide your risk estimate for developing TAA Deficiency right now.

(Please Remember: Your experimenter will never associate your response to this question with you personally. It is completely your decision whether or not you want to receive this risk estimate).

Only select one of the options below if you do not want your risk estimate right now.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1________</td>
<td>No, I am not interested in learning my risk for developing TAA Deficiency.</td>
</tr>
<tr>
<td>2________</td>
<td>Yes, I would like know my risk for TAA Deficiency, but not today. I wish to do so at a later date.</td>
</tr>
<tr>
<td>3________</td>
<td>Yes please give me my risk feedback right now.</td>
</tr>
</tbody>
</table>

We are very interested in your thoughts regarding this decision. Please write down any thoughts you had while making this decision, and provide your thoughts for each of the following questions.

- What thoughts led you to choose the option you chose?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
APPENDIX D
THOUGHTS QUESTIONNAIRE

1. How worried are you about developing TAA Deficiency?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not at all worried</td>
<td>somewhat worried</td>
<td>very worried</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. In your opinion, how serious a problem is TAA Deficiency?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>not at all serious</td>
<td>somewhat serious</td>
<td>very serious</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Please estimate the likelihood that you will develop TAA Deficiency in your lifetime. Your estimate should be between 0% and 100%. _________%

4. Please estimate the likelihood that the average person your age and sex will develop TAA Deficiency in his/her lifetime. Your estimate should be between 0% and 100%. _________%
Feelings Questionnaire

The next items ask about your feelings concerning learning your TAA Deficiency risk. Please respond to all items even if you chose NOT to learn your TAA Deficiency risk.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The possibility that my results would make me feel bad influenced my decision to undergo the risk assessment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. The possibility that my test results would challenge my view of myself as healthy influenced my decision to undergo the risk assessment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. The possibility that my test results will require me to take action influenced my decision to undergo the risk assessment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. I can control whether I develop TAA Deficiency.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. I would feel distressed if I learned that I was at high risk for TAA Deficiency.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. I would feel happy if I learned that my risk for TAA Deficiency was low.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. It would be useful to know my risk for TAA Deficiency.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Knowing my risk for TAA Deficiency would allow me to take steps to improve my health in the future.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. I am curious to know my risk of TAA Deficiency.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. There are things I can do to decrease my risk should I learn that I am at a high risk for TAA Deficiency.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Neither Agree nor Disagree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>---</td>
<td>------------------</td>
<td>--------------------------</td>
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<tr>
<td>11. I have someone to turn to should I learn that I am at risk for TAA Deficiency.</td>
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<td>12. I personally have what it takes to deal with the news should I learn that I am at risk for TAA Deficiency.</td>
<td>1</td>
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<tr>
<td>13. I have the emotional help and support I need to deal with the news should I learn that I am at risk for TAA Deficiency.</td>
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<td>14. It will be difficult for me to deal with the news should I learn that I am at risk for TAA Deficiency.</td>
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<tr>
<td>15. I can remain calm in the face of the news should I learn that I am at risk for TAA Deficiency.</td>
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<td>16. I would cope poorly if I learned that I am at risk for TAA Deficiency.</td>
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<td>3</td>
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<tr>
<td>17. Imagine that you chose to learn your TAA Deficiency risk. How much do you anticipate regretting that decision later? <em>(This is a hypothetical question. To answer this question, imagine choosing to learn your personal risk in the previous part of the questionnaire, irrespectively of what option you actually chose.)</em></td>
<td>Very little</td>
<td>Very much</td>
<td></td>
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<tr>
<td>18. Imagine that you chose NOT to learn your TAA Deficiency risk. How much do you anticipate regretting that decision later? <em>(This is a hypothetical question. To answer this question, imagine choosing not to learn your personal risk in the previous part of the questionnaire, irrespectively of what option you actually chose.)</em></td>
<td>Very little</td>
<td>Very much</td>
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### APPENDIX E
#### SHORT PANAS

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LIST OF REFERENCES


BIOGRAPHICAL SKETCH

Jennifer Howell was born and raised in Houston, Texas. She graduated from Southwestern University in Georgetown, Texas in 2009 with a Bachelor of Arts in psychology. Additionally, she received a Master of Science degree in Social Psychology from the University of Florida where she is continuing her education in pursuit of a PhD. Her research focuses on people’s orientation toward information, health behaviors, and decision-making.